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ABSTRACT

A study determined if significant differences existed between the mean scores of students receiving formal spelling instruction when compared with scores of students who did not receive any instruction in spelling. Subjects, 50 first-grade students, were given either formal spelling instruction throughout the week for 6 weeks or received no formal instruction. Both groups of students used the same phonics books and reading series. At the end of each week, all students were tested on 10 spelling words. Results indicated that students receiving formal spelling instruction scored better on the spelling tests than students who received no formal spelling instruction. (Contains 18 references and 1 table of data. An appendix of data is attached.) (RS)

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Spelling Instruction and Development

by

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for the degree of
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ABSTRACT

Fifty first grade students participated in this study during January and February, 1995. Twenty five students in one sample were given formal spelling instruction, while twenty five students of another sample did not receive any formal instruction in spelling. At the end of each week, for a six-week period, all of the students were tested on ten spelling words.

The hypothesis of this study was that there would be no significant difference between the means of the sample receiving formal instruction when compared with the scores of the students who did not receive any instruction in spelling. The results permitted rejection of the hypothesis.

ACKNOWLEDGEMENT

I would like to thank Dr. Albert J. Mazurkiewicz (Chairman of the Department of Communication Sciences at Kean College) for his guidance and patience in helping me develop and write this thesis.

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DEDICATION

I dedicate this paper to my husband, Jeff, who worries about me; and to my daughter, Meredith, who enabled me to become computer literate.

The spelling progress of children can often be improved if they are encouraged to think about words in print and are given instruction that is directed toward their current spelling level. Emergent readers and spellers are aware that there is a connection between the spoken word and the written word. Constance Weaver has found graphophonemic readers want to read exactly what is written on the page. As children begin to read, they become transitional spellers. The source of the features, the generalizations about spelling that they are beginning to manipulate, is in the print they see around them. The path to correct spelling lies through more reading, more writing and more attention to the way words are put together. (Temple, 1988)

Studies have shown that having available an automatic spelling vocabulary allows writers to express the full range of their thoughts with minimum impediment. (Bloom, 1986). According to Storie and Willems (1988), pupils should be able to read words before they learn to spell them. They suggest that spelling words being taught in class be the same words that the students have learned to

read. The words the students see in print and read will be the words they write and study for spelling. This reading and writing relationship should improve their spelling ability.

In a spelling program, it is important to analyze words. Student analysis should develop in reading groups using word study activities and during the writing process.

Presenting and testing words in list form is more successful than presenting and testing words in sentences. Presenting words in a list, focuses the pupil's attention on each and every word. (Fitzsimmons and Loomis, 1978).

Another important component of a spelling program is the use of an effective study method. A method which uses visual, auditory and kinesthetic processes would be beneficial. An effective spelling program must also include guided practice and teacher modeling. (Fitzsimmons and Loomer, 1978).

Ehri and Wilce (1987) have found that spelling training transfers to printed word learning. Spelling instruction was found to improve children's ability to learn to read a set of

similarly spelled words.

Studies indicate that even immature beginners incorporate letter patterns remembered from reading experiences. Phonological recoding skill enables readers to store the spellings of words in lexical memory. Readers use their knowledge of letter-sound relationships to form connections between the spelling of words and the pronunciation of them. The reading and spelling process are closely related especially when setting the foundation for learning these processes. (Ehri and Robbins, 1992)

Silva and Yarborough (1990) have found that competent spellers spell well automatically. Their visual, auditory and haptic processes are well integrated in regard to the words they have learned. When a word is not automatically retrieved from memory, good spellers rely upon other skills such as phonics to spell the word. They also found that students with spelling problems can be helped by being taught conventional rules of spelling. This is especially effective if the rule is taught in order to correct a specific error the speller nas made.

Despite much research, however, the spelling

ability of children (and adults) is still of serious concern, and instructional procedures need continuous study to determine which methods are more fruitful.

Hypothesis

To add to the body of information on "best" method, the following study was undertaken. It was hypothesized that the spelling ability of first-grade children would not significantly improve when they were given specific spelling words to read, write and study each week when compared to another sample of students exposed to the same words only in their reading.

Participating in this study, were two first grade classes each having twenty-five children. One group was comprised of 16 boys and 9 girls who received formal spelling instruction in class each day. The other group, which did not receive formal spelling instruction, was comprised of 15 boys and 10 girls.

The children in both first grade classes were between the ages of six and seven. The children were from lower-middle class to middle-middle class families. Of the fifty children, three were from

minority groups. Both first grades were heterogeneously grouped. The children were reading on various levels ranging from 1.2 to 2.0.

Procedures and Sample

For purposes of this study, one class was designated the experimental sample using random selective procedures. The experimental sample was given the spelling words on Monday and received formal spelling instruction throughout the week. The students practiced the words using various activities which included writing each word three times for homework, writing each spelling word as well as a word that rhymed with it and using each word in a sentence. The words were taken from the phonics work being taught or the reading vocabulary words that were being studied for the week. The students were encouraged to recognize similarities between the words, and to write the words adding endings to them, such as ing or ed. (Ex. go-going; look-looked). Recognizing spelling patterns and finding little words within a larger word were also activities which were emphasized.

The sample receiving the formal spelling instruction was actively involved in writing

activities which incorporated the spelling words. The students wrote daily, writing creatively, writing to communicate with others, but always writing with a purpose in mind.

Each child in this sample had a separate spelling notebook in which to write spelling activities and homework assignments for the week. After four days of spelling activities beginning on Monday and continuing through Thursday, the children were tested on the week's words. The test was given each Friday for 6 successive weeks.

The other first grade sample in the study did not receive any specific spelling instruction. While the children were exposed to the spelling words during reading and phonics activities, due to the fact that both classes used the same phonics books and reading series, the second class was asked to write the words on Friday without any previous study of them. These students did not participate in activities that involved analysis, comparison or the practice of the particular spelling words in a formal course of study.

Results

The tests from both samples were administered and scored each Friday for six weeks. The total test scores were evaluated and compared using the *t* test. A comparison of the data can be seen in Table I. There is a mean difference of 34.94 between the samples.

Table I
Means, Standard Deviation and t test of the Samples' total Spelling Scores

	N	Mean	Std. Deviation	t
Experimental	25	94.09	5.89	6.67
Control	25	59.15	25.54	

The *t* value of 6.67 exceeded 2.58, and therefore, the null hypothesis was rejected at the .01 level of significance.

Conclusions and Implications

The educational conclusions and implications of this study indicate the importance of providing formal spelling instruction for emergent readers and spellers. Temple (1988) found that reading, writing and word analysis were necessary for learning how to spell correctly.

Storie and Willems (1988) suggest that the spelling words being taught in class be the same words that the students have learned to read. Also important to the spelling program is using a method which incorporates visual, auditory and kinesthetic processes.

Incorporating these methods into daily classroom routines has made a notable difference in the performance of the experimental sample when compared with the control group. With practice, the students gained importantly in their spelling skills.

The null hypothesis, that the spelling ability of first grade children would not significantly improve when they were given specific spelling words to read, write and study each week when

compared to another sample of students exposed to the same words only in their reading, was rejected.

Spelling Instruction and Development:

Related Literature

In 1985, the Commission on Reading encouraged teachers to integrate literacy and language learning. Because reading and writing are closely related, research has determined that these subject areas should be taught together. Writing experiences help to develop the spelling, phonics and vocabulary skills of students. Teaching these language arts together leads to a transfer of skills between reading and writing. Words taught for reading lessons and spelling lessons should be the words used in the writing activities of the students. Developing a relationship between the reading and writing activities of the students will facilitate reading comprehension and strengthen their language arts skills. (Anderson, Heibert, Scott & Wilkinson, 1985)

Is the ability to spell, however, an important skill to master? It has been found that 1 in 10 of the students in secondary school has spelling problems which are a deterrent to effective writing, primarily because the relationship between spelling and composition is easily overlooked. Spelling disabilities inhibit students and make it difficult for them to write effectively. (Silva &

Yarborough, 1990)

When should we begin to teach spelling? According to studies by Bloom (1986), it is important to develop automaticity of skills if one is to succeed in a particular area. This is done by overlearning skills through practice and training. Bloom has found that communication skills are among those that can be learned to an automatic level. Elementary school is where children should begin to develop automaticity in basic skills and the processes that they will need for more complex learning in the upper grades.

Writing is one of the skills that must be developed in the early years. Children must be able to communicate and express their ideas in writing. In order to communicate via the written word, it is necessary to be able to spell correctly. According to Bloom, automaticity in spelling allows writers to express the full range of their thoughts with minimum impediment.

How should elementary educators provide formal spelling instruction, especially when it is vital to their students progress. It is known that the ability to spell must be constructed over time.

Henderson and Templeton (1986) found that the spelling ability of students seems to develop in four stages. These stages include: concept of word, letters and sounds, syllables and affixes and derivational patterns.

Templeton describes the concept of word as when a child realizes that a word is a group of letters with a space before and after it. The child is then ready to acquire a sight word vocabulary. The letters and sounds stage is a students' realization that there is a pattern of correspondence between letters and sounds in single-syllable words. The third stage of syllables and affixes involves an understanding of syllables including prefixes and suffixes and how they are added to base words. The fourth stage of derivational patterns includes a study of words, their relationship in meaning and the spelling/sound patterns that evolve from this relationship. In the upper elementary grades, students are ready to examine the meaning principle and apply it to expand their vocabulary. Spelling knowledge and vocabulary development strongly interact in the upper elementary and middle grade

levels. Words that share a core of meaning help through analogies and comparison to enrich vocabulary and reinforce spelling. It has been found that it is more productive to help students develop strategies for looking for orthographic patterns among words instead of rote memorization. (Read and Hodges, 1982)

According to Templeton's (1986) synthesis of research regarding the learning and teaching of spelling, he has reached the following conclusions: there is a relationship among spelling, reading and writing. As the students progress in school, they understand the meaning of words at more abstract levels. Formal spelling programs must include the teaching of spelling words that are related to the student's reading, writing and vocabulary development. Students must be taught to analyze words by considering their meanings and structure and looking for spelling patterns. Words to be studied should be appropriate for the students word level.

In essence, spelling should be logical and follow a developmental progression. Spelling should be taught with the other language arts of

reading and writing. When it is taught as having meaning, spelling will expand vocabulary development.

Ehri and Wilce (1987) found that spelling training improved phonetic segmentation and spelling recognition skills. It is worthwhile to link spelling instruction to reading instruction especially for beginning readers.

During their study, they found that children are better able to read words when they know how to spell them. Students learn how to spell through phonemic awareness and letter-sound knowledge. These findings also suggest that spelling instruction should be provided early because it will contribute to the reading process. This is due to the fact that the study showed that training in the spelling process transferred to printed-word learning. Spelling instruction was found to improve children's ability to learn to read a set of similarly spelled words.

As phonetic cue reading skill improved, students could distinguish words by letter-sound associations. Spelling-trained subjects used stored memory of letter sounds to help them with

spelling. These stored letter-sound associations helped the students to read, as well.

Thus, spelling instruction in phonetic stage spelling, when vowel spellings and phonemic segmentation skills are mastered, also improves students' ability to read words.

Ehri and Wilce agree that writing activities with direct teacher instruction for difficult spelling words would be an effective approach for teaching reading, writing and spelling in first grade.

According to Storie and Willems (1988), educators should teach spelling in a whole school program. Students should use spelling skills in a meaningful way and not just memorize words. The true test of spelling ability is how students communicate through the written word.

An important part of a good spelling program is a list containing words that are frequently used by students. To compile a list, words that the students want to know, misspell, or need to know, should be used. It is most important to use words that are in the students' vocabulary and are words that they need to use to express their thoughts.

To help students retain the words to be learned, they must understand the meaning of the words they are studying. This can be accomplished by having them use the words in sentences. Students should also be given opportunities to use the spelling words in daily writing experiences. Such activities could include creative writing, daily journals, poems and writing books. Using rhyming words helps students learn to transfer spelling words. (Gettinger, 1984)

Spelling is commonly regarded as a skill area to be mastered at the elementary level. Competent spellers spell well automatically - their visual, auditory and haptic processes are will integrated with regard to the spelling words they know. Accomplished spellers also rely upon phonics skills to produce a plausible rendition of a word. Students with spelling problems, however, do not have automaticity of spelling words or the phonetic skills necessary to produce a word that can be understood. Temple, Nathan, Burris and Temple (1988) found that the spelling progress of children can be improved if the students are provided with encouragement, modeling and instruction that is

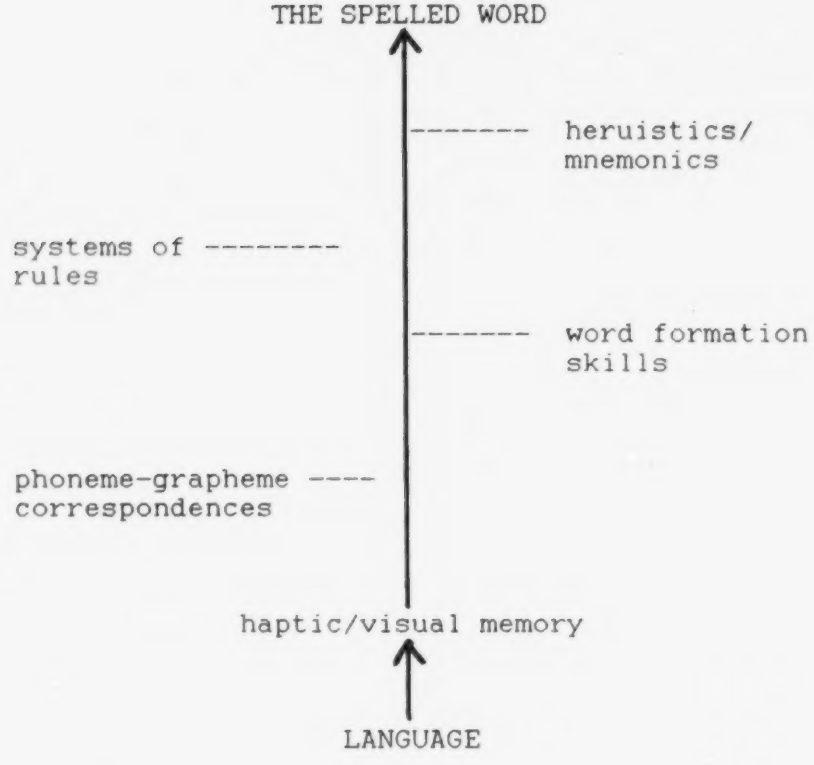
directed toward their current level of thinking about print.

According to Silva and Yarborough (1990) the primary process in proficient spelling is visual/haptic memory, which allows the speller to access thousands of words automatically with accuracy. Silva and Yarborough developed a pragmatic model of the spelling process which is illustrated on the following page.

These two researchers analyzed student errors and placed them into three categories: problems in the language base which includes words phonologically misconceived and thus, misspelled; misspelling due to ignorance of or failure to apply spelling conventions or rules; and visual memory problems (which cause the most frequent type of errors). To help students correct these problems, educators must begin teaching sounds and syllables at the students' most basic level, teach the application of a few basic spelling rules, and when necessary, students must use rote learning to help them remember the spelling of significant words.

This research indicates the need to begin spelling instruction in the elementary grades. If

Pragmatic Model of the
spelling process



children begin formal spelling lessons in first grade and continue throughout elementary school. it will help them become automatic spellers by the time they reach secondary school.

The spelling progress of children can often be improved if they are encouraged to think about words in print and are given instruction that is directed toward their current spelling level. Emergent readers and spellers are aware that there is a connection between the spoken word and the written word. Constance Weaver (1988) has found graphophonemic readers want to read exactly what is written on the page. As children begin to read, they become transitional spellers. The source of the features, the generalizations about spelling that they are beginning to manipulate, is in the print they see around them. The path to correct spelling lies through more reading, more writing and more attention to the way words are put together. (Temple, 1988)

According to Storie and Willems (1988), pupils should be able to read words before they learn to spell them. They suggest that spelling words being

taught in class be the same words that the students have learned to read. The words the students see in print and read will be the words they write and study for spelling. This reading and writing relationship should improve their spelling ability.

In a spelling program, it is important to analyze words. Student analysis should develop in reading groups using word study activities and during the writing process. Another important component of a spelling program is the use of an effective study method. A method which uses visual, auditory and kinesthetic processes would be beneficial. An effective spelling program must also include guided practice and teacher modeling. (Fitzsimmons and Loomer, 1978)

According to Goswami (1989) pre-reading rhyming skills can predict later reading ability. Children who can rhyme words at the pre-school age, seem to realize that rhymes also share spelling patterns. They are able to predict and make analogies about how additional written words will sound.

An ability to rhyme demonstrates an awareness of phonics skills and the understanding that words

can be broken down into sounds. Rhyming seems to be a strong predictor of later reading ability. This may be due to children noticing similarities in spelling once they begin to read.

Children who are capable of recognizing rhyming words and spelling patterns within those words, quickly realize that words spelled in the same way seem to sound alike. This allows the children to make analogies about new written words which have familiar spelling patterns and are like words they can already read.

Children who are taught rhymes should improve in their usage of analogies in reading and spelling. If children can see orthographic analogies between words, their reading performance should improve.

These skills can be utilized by reading and writing word families, using books which contain rhyming words and having the children find little words in the big words.

Studies indicate that even immature beginners incorporate letter patterns remembered from reading experiences. Phonological recoding skill enables readers to store the spellings of words in lexical

memory. Readers use their knowledge of letter-sound relationships to form connections between the spelling of words and the pronunciation of them. The reading and spelling process are closely related especially when setting the foundation for learning these processes. (Ehri and Robbins, 1992)

Goswami (1990) states that a child's ability to recognize rhyming words was predictive of his/her ability to read analogical words. Students who recognize rime units (the pronounced vowel and all that follows it in the syllable) would be able to recognize spelling patterns present in root words. Students must use their knowledge of how letters symbolize sounds to master the pronunciation and spelling of words.

According to Templeton (1990) spelling for meaning as opposed to phonetic spelling is apparent in the derivations of words and their spelling. Although the pronunciation of the words may change, their spelling does not. An example would be autumn and autumnal.

Goswami (1991) has found that children's phonological awareness is important for later reading development. Spelling sequences which

rhyme with each other are easier to learn, and it seems to indicate that phonological knowledge plays a role in learning spelling sequences in reading. Phonological factors are also incorporated when children begin word analysis in reading.

At first children may analyze written words by the onset (initial consonant) and rimes (vowel and final consonants) of words. They also seem to make more analogies in reading when the words to be read share endings. (cook, book)

Ball and Blachman (1991) state that phoneme awareness instruction for children and instruction in the relationship of sounds to letters improves their early reading and spelling skills.

Phoneme awareness is the ability to recognize that a spoken word is made up of individual sounds. In order to read and spell, one must make use of the alphabet and the student must be aware that phonemes are represented by the letters of the alphabet.

Developing an understanding of the relationship between the sounds of speech and letters of the alphabet is what beginning readers must master. Thus, it has been found that

heightening phoneme awareness may help prevent early reading and spelling failures. Studies have found that success with phonemes can predict success with early reading and spelling, especially when the relations between sound segments and letters were explicitly taught.

Research by Gill (1991) bas found that beginning readers must have the ability to segment words into phonemes to succeed in reading. Another predictor of success for beginning readers is if the child has been read to from an early age.

Progression in word knowledge helps children notice spellings of words. Exposure to print helps them form spellings of words which they test through their reading and practice in their writing.

As a reader develops word knowledge and automatic word recognition, the mind is able to concentrate more on content comprehension rather than the decoding of words. Word recognition and spelling result from an interaction of word knowledge and the word in print. This interaction develops as the reader gains reading experience and makes new theories about words. The correct

spelling of words becomes memorized as readers repeatedly see these words in print. They can perceive words as patterns rather than letter by letter.

Educators can provide helpful instruction by letting children do a lot of reading using materials they can read with accuracy and fluency, letting them do extensive writing and providing direct instruction for each child whenever it is necessary.

Carty (1992) has found that spelling words studied in isolation will have very little transfer to the writing activities of students.

If spelling is presented in a holistic and integrated way, it becomes more meaningful and is more easily learned. It is important for children to understand that learning to spell words will help them be better writers.

Teachers can help their students by incorporating spelling into the language arts program, allowing time for development and helping with spelling during appropriate times such as when editing creative writing.

It is most important to provide meaningful and

purposeful word learning experiences for the students. Spelling instruction should be part of writing and reading experiences. The goal of spelling instruction should be the development of children to express their thoughts. Spelling strategies are necessary for communication of ideas.

Griffith and Olson (1992) state that phonemes are the raw material of reading and writing. Phonemic awareness is described as the ability to study language sounds and manipulate them. This is what is required to rhyme words or recognize rhymes. Skill with phonemes enables children to use letter-sound correspondences to read and spell words.

Phonemic awareness is not the same as phonics. It is an understanding of the structure of spoken language. Training in phonemic awareness has a positive effect on the development of children's ability to recognize and spell words. Training includes rhyme and alliteration and recognizing an odd word in a set of rhymes. (e.g., cat, hat, fun, sat, bat) This training led to reading success when combined with instruction in the alphabetic

writing system. This training should include letter-name and letter-sound instruction because it points out the relationship between sound segments and letters.

If one has the ability to recognize and spell words with automaticity, then more attention can be given to the higher order process of reading comprehension. Texts for phoneme awareness include rhyme recognition, blending of speech sounds and isolating speech sounds.

Educators can also help children develop phonemic awareness by exposing their students to literature that provides rhyme in its text, by letting students participate in a variety of writing experiences and by providing instruction in hearing sounds in words.

Writing experiences should allow children to express their ideas, and daily writing practice could prove to be beneficial.

To gain phonemic awareness is to become conscious of the basic sounds of speech. Children must learn that letters stand for the sounds in spoken words. When they come to this realization, they are ready for success in reading.

Present findings also indicate that there is a strong relationship between spelling and reading especially in regard to emergent literacy. It has been found that even beginning readers incorporate letter patterns recalled from reading into their spelling. It is important, therefore, for readers to understand letter-sound relationships and for educators to teach these relationships from the start. (Ehri and Robbins, 1992)

Mazurkievich (1994) states that according to recent research, emergent literacy and the reading and writing connections are most important and must effect the instructional practices of educators.

Hatcher, Hulme and Ellis (1994) found that there is a strong association between the learning of reading and spelling. By integrating the teaching of reading and phonics, both reading and spelling skills improve.

According to Goswami (1994) children with good phonological skills become better readers. Their ability to manipulate phonemic sounds develops as they begin to learn how to read. It appears that phonemic awareness develops as one learns to read and write the alphabet.

A basis for children to read new words is by making analogies using the spelling pattern of a known word to read a rhyming, but unknown, word. Children who perform well in rhyming make more analogies, whereas, children who have poor rhyming skills do not. Apparently they do not make a connection between shared spelling patterns and sounds.

Studies indicate that providing activities which use analogies in school will help students progress in reading and spelling. Training children to be aware of rhyme will help with reading, especially if they are writing the rhyming words. This may be done using plastic letters to spell the words or chalk boards to write them.

An effective way to build awareness of spelling categories is through word families. It is important to use families that share spelling patterns. Students will benefit from frequent practice with shared sounds and spelling. Incorporating daily activities in class which involve rhyme and analogy will benefit all students. These activities will help them relate

spelling patterns and sounds that exist between words in word families.

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APPENDIX

Mean score for each student

Experimental Sample	Control Sample
1. 98.33	1. 82.00
2. 96.66	2. 63.33
3. 96.00	3. 12.50
4. 98.00	4. 58.33
5. 95.00	5. 24.00
6. 96.00	6. 80.00
7. 95.00	7. 75.00
8. 98.33	8. 64.00
9. 94.00	9. 5.00
10. 95.00	10. 70.00
11. 92.00	11. 36.66
12. 100.00	12. 64.00
13. 96.00	13. 70.00
14. 86.66	14. 78.33
15. 100.00	15. 76.66
16. 93.33	16. 90.00
17. 98.00	17. 42.00
18. 84.00	18. 94.00

Experimental Sample	Control Sample
19. 96.66	19. 55.00
20. 88.33	20. 77.50
21. 98.33	21. 24.00
22. 100.00	22. 40.00
23. 86.66	23. 100.00
24. 75.00	24. 64.00
25. 95.00	25. 72.50